THE LOWLAND DRY FOREST AND SCRUB OF HAWAII VOLCANOES NATIONAL PARK: VEGETATION RECOVERY IN AN HISTORICALLY STRESSED ECOSYSTEM

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The lowland dry forest and scrub of the Kalapana Extension, Hawaii Volcanoes National Park, has been subjected to centuries of vegetation disturbance by lava flows, human settlements, and feral ungulates. The recent migration by humans and eradication of feral goats from the area has provided a unique opportunity to quantify woody vegetation recovery. Although a similar project has been ongoing for the herbaceous and low scrub communities of the western lowland, no such study has been undertaken for the eastern lowland forest and scrub.

A combination of releve placement, structural analysis, and a study of canopy change using aerial photographs allowed detection and quantification of the area's successional status and vegetation changes during more than a decade of recovery.

The major findings were that 1) native and exotic woody species are reproducing with natives as the overall dominants. 2) In certain areas where human and feral mammal (i.e. pigs) disturbance continues, exotic species are more abundant. 3) Species richness in the area is low; however, this has not been attributed only to the impact of goats. Rather, it is hypothesized that the area's youthful substrate is a limiting factor.